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A'  
a puncturer for puncturing said encoded data symbols generated from said puncturer as a function of a number of symbols of the side information, the positions of the punctured encoded data symbols chosen to lessen a channel degradation;

a side information generator for generating the number of said side information;

a selector for generating a select control signal designating positions into which said side information are inserted;

a side information inserter for inserting said side information between said encoded punctured data symbols in response to said select control signal; and

a spreader for spreading the output of said side information inserter.

Sub A'  
A<sup>2</sup>  
3. (Amended) The apparatus as claimed in claim 1, further including an interleaver for interleaving said encoded data symbols to supply the interleaved data symbols to said side information inserter.

Sub A'  
A<sup>3</sup>  
10. (Amended) A method for inserting side information in a communication system, comprising the steps of:

encoding input data in a frame unit to generate encoded data symbols;

puncturing said encoded data symbols, the positions of the punctured encoded data symbols chosen to lessen a channel degradation;

inserting said side information between the punctured data symbols; and

CONT  
#3

spreading the symbols with said side information.

SUB B' >

A4

18. (Amended) A channel transmitter of a communication system, comprising:  
a cyclic redundancy check (CRC) generator for adding a CRC bit to input data in a frame unit;  
a tail bit generator for adding a tail bit to the output of said CRC generator;  
an encoder for encoding the output of said tail bit generator at a preset coding rate;  
a puncturer for puncturing symbols of a prescribed number of the output symbols of said encoder, the positions of the punctured output symbols of said encoder chosen to lessen a channel degradation;  
an interleaver for interleaving the output of said puncturer;  
a selector for generating a select control signal designating a position into which side information is inserted;  
a side information inserter for inserting said side information between the output symbols of said interleaver in response to said select control signal; and  
an orthogonal modulator for orthogonally modulating the output of said side information inserter.

SUB B' >

A5

24. A transceiver of a mobile communication system, comprising:  
a channel encoder for encoding input data to generate encoded data symbols sequence;

*Cont #5*

a puncturer for puncturing a number of said encoded data symbol sequence in consideration of the number of symbols of side information to be inserted, the positions of the punctured encoded data symbols chosen to lessen a channel degradation;

an interleaver for interleaving the punctured data symbol sequence;

a side information generator for generating said side information;

a selector for generating a select control signal designating a position into which said side information is inserted;

a side information inserter for inserting said side information between the interleaved data symbol sequence in response to said select control signal;

a transmitter for spreading the data symbol sequence having said side information to transmit the spread signal; and

a receiver for receiving said spread signal from said transmitter, wherein said receiver includes;

a finger for despreading said spread signal to generate a receiving signal sequence;

an inserting position selector for generating a control signal designating a position into which said side information is inserted; and

a demultiplexer for extracting said side information contained in said receiving signal sequence in response to said control signal generated from said inserting position selector.

Sub 10

30. (Amended) A method for transmitting and receiving data in a mobile communication system, comprising the steps of:

- encoding input data to generate encoded data symbol sequence;
- puncturing a number of said encoded data symbol sequence in consideration of the number of symbols of side information to be inserted, the positions of the punctured encoded data symbols chosen to lessen a channel degradation;
- interleaving the punctured data symbol sequence;
- generating said side information;
- generating a select control signal designating a position into which said side information is inserted;
- inserting said side information between the interleaved data symbol sequence in response to said select control signal;
- spreading the data symbol sequence having said side information to transmit the spread signal;
- despreading said spread signal to generate a receiving signal sequence;
- despreading a position into which said side information is inserted; and
- extracting said side information contained in said receiving signal sequence in response to the designated position.

A<sup>6</sup>

Please add the following new claims:

SUB B'

36. (New) The apparatus as claimed in Claim 3, wherein upon receiving the select control signal, the side information inserter delays the interleaved data symbols by a delay interval and then inserts the side information into the delay interval.

37. (New) The apparatus as claimed in Claim 36, wherein the side information inserter inputs the delayed interleaved data symbols upon the completion of receiving the select control signal.

38. (New) The method as claimed in Claim 11, wherein upon receiving a select control signal, the interleaved data symbols are delayed by a delay interval and then the side information is inserted into the delay interval.

39. (New) The method as claimed in Claim 38, wherein the delayed interleaved data symbols are inputted upon the completion of receiving the select control signal.

40. (New) The transmitter as claimed in Claim 18, wherein upon receiving the select control signal, the side information inserter delays the interleaved data symbols by a delay interval and then inserts the side information into the delay interval.

41. (New) the transmitter as claimed in Claim 40, wherein the side information inserter inputs the delayed interleaved data symbols upon the completion of receiving the select control signals.

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Please cancel Claims 2, 4 and 5 without prejudice.

**IN THE DRAWINGS:**

Please accept amended Figs. 1-4, each amended as shown in red.

**REMARKS**

The application has been reviewed in light of the Office Action dated November 6, 2002. Claims 1, 3, and 6-41 are pending in this application, with Claims 36-41 being newly added above. Independent Claims 1, 10, 18, 24 and 30 have been amended above. In addition, dependent Claim 3 has been amended for form to change its dependency. Claims 2, 4 and 5 have been cancelled without prejudice.

Turning to the Office Action, Figs. 1-4 were objected to in paragraphs 1 and 2 of the Office Action. Proposed revisions to Figs. 1-4 are included. Approval and withdrawal of the objections is respectfully requested.

Claims 4 and 5 were objected to in paragraph 3 of the Office Action as not providing a further limitation of Claim 2. As noted, Claims 4 and 5 have been cancelled without prejudice above.